

I. THREE-PHASE INDUCTION MOTORS TO 100 KWGROUP A

Model	KW at Synchronous RPM			Net Weight, kg		Price, Rubles
	1500	1000	750	A	AL	
A31	0.6	-	-	16.5	12	120
A42 and AL42	2.8	1.7	-	41.5	29.5	227
A62	14	10	7	138	-	635
A81	40	28	20	360	-	1,550
A92	100	75	55	665	-	2,890

GROUP B

Model	RPM	KW	Net weight, kg		Price, Rubles
			A	AL	
A31-2 and AL31-2	3000	1	16.5	12	132
A42-2 and AL42-2	3000	4.5	42	30.5	250
A62-2	3000	20	143	-	695
A81-2	3000	55	370	-	1,860
A92-2	3000	125	685	-	3,480

GROUP C

Model	KW at Synchronous RPM			Net Weight, kg		Price, Rubles
	1500	1000	750	A0	A0L	
A031 and A0L31	0.6	-	-	20	12.5	142
A042 and A0L42	2.8	1.7	-	45	31	270
A062	10	7	4.5	162	-	650
A082	40	28	20	495	-	2,330
A094	100	75	55	890	-	4,350

(continued)

I. THREE PHASE INDUCTION MOTORS, TO 100 KW - 2

GROUP D

Model	KW	RPM	Net weight, kg	Price, rubles
A62-8/4	5	720	140	760
	7	1450		
A81-8/4	14	730	360	1,860
	20	1470		
A92-8/4	40	730	665	3,480
	55	1470		
A62-12/6	3	470	140	760
	5	950		
A81-12/6	9	480	360	1,860
	14	970		
A92-12/6	25	485	665	3,480
	40	975		
A62-8/6/4	3.5	695	140	830
	4.5	940		
	5	1400		
A81-8/6/4	10	710	360	2,010
	12.5	960		
	14	1430		
A92-8/6/4	28	710	665	3,770
	36	960		
	40	1430		
A62-12/8/6/4	1.3	460	125	730
	2	705		
	2.5	910		
	3	1410		
A92-12/8/6/4	17	470	660	3,920
	24	715		
	28	950		
	36	1440		

GROUP E

A031-4/2	0.45	1420	21	177
	0.6	2840		
A042-4/2	2.1	1430	45	338
	2.8	2850		

I. THREE PHASE INDUCTION MOTORS, TO 100 KW - 3

GROUP E (continued)

Model	KW	RPM	Net weight, kg	Price, rubles
AO62-8/4	3.5	720	165	760
	5.0	1450		
AO82-8/4	14	730	495	2,800
	20	1470		
AO9A-8/4	40	730	890	5,220
	45	1470		
AO62-12/6	2.0	470	165	760
	3.5	950		
AO82-12/6	9	480	495	2,800
	14	970		
AO9A-12/6	25	485	890	5,220
	40	975		
AO42-6/4/2	1.0	950	45	338
	1.3	1450		
	1.7	2880		
AO62-8/6/4	2.5	710	165	810
	3.0	950		
	3.5	1420		
AO82-8/6/4	10.0	720	495	2,940
	12.5	970		
	14.0	1450		
AO9A-8/6/4	28	730	890	5,510
	36	980		
	40	1470		
AO-62-12/8/6/4	1.3	470	165	835
	2.0	715		
	2.5	930		
	3.0	1430		
AO82-12/8/6/4	6.0	480	495	3,020
	8.5	725		
	10.0	960		
	12.5	1450		
AO9A-12/8/6/4	17	480	890	5,660
	24	730		
	28	970		
	36	1470		

I. THREE PHASE INDUCTION MOTORS, TO 100 KW - 4

GROUP F

Model	KW at Synchronous RPM			(Net weight, kg)	Price, rubles
	1500	1000	750		
AP-62	14	10	7	140	700
AP-81	40	28	20	360	1,710
AP-92	100	75	55	665	3,200
AOP-42	2.8	1.7	-	45	275
AOP-62	10	7	4.5	165	700
AOP-82	40	28	20	495	2,500
AOP-94	100	75	55	890	4,930

GROUP G

AK-62	14	10	7	160	1,150
AK-81	40	28	20	400	2,700
AK-92	100	75	55	750	4,650

II. THREE PHASE INDUCTION MOTORS, ABOVE 100 KWGROUP A

Model	KW at Synchronous RPM				Net wt. (kg)	Price, rubles
	1500	1000	750	600		
AM6-115 ^{a/}	135	75	60	45	1180	5,300
AM6-115 ^{b/}	110	-	-	-	1180	6,300
AM6-125 ^{a/}	-	130	95	80	1520	7,100
AM6-125 ^{b/}	-	110	-	-	1520	8,600
AM6-128 ^{a/}	300	215	155	130*	1870	9,000
AM6-128 ^{b/}	-	190	125*	100	1825	10,700
AM6-138 ^{a/}	-	320	245	180	2235	12,100
AM6-138 ^{b/}	410	280	200*	165*	2350	15,200
AM6-138 ^{c/}	300	-	-	-	2300	17,500
DAM6-115	135	-	-	-	1020	4,600
DAM6-128	300	-	-	-	1870	7,800
DAM6-138	-	320	245	-	2100	10,500
GAM6-115	-	75	60	45	970	4,600
GAM6-125	-	130	95	80	1370	6,200
GAM6-128	-	215	155	130*	1710	7,800
GAM6-138	-	-	-	180	2080	10,500
DAMT6-115	110	-	-	-	1020	5,650
DAMT6-128	-	185	-	-	1900	9,600
DAMT6-138 ^{b/}	410	280	200	-	2230	13,600
DAMT6-138 ^{c/}	300	190	-	-	2180	15,600
GAMT6-125	-	110	-	-	1370	7,700
GAMT6-128	-	190	125	100	1710	9,600
GAMT6-138	-	-	-	165	2080	13,600

(continued)

a/ 220/380 and 500 volts.

b/ 3800 volts.

c/ 6000 volts.

*Produced with pulleys only in installation type 88282 (i.e., on two shield and one stand pipe bearings, on common base plate, for belt drive).

II. THREE PHASE INDUCTION MOTORS, ABOVE 100 KW - 2GROUP A (continued), FAMSO SERIES

Model	KW at Synchronous RPM					Net wt. (kg.)	Price, rubles
	1500	1000	750	600	500		
147b/	500	380	260	200	140	3100	19,900
c/	360	-	200	-	-	2900	22,900
1410b/	680	520	370	280	210	3600	24,600
c/	500	380	260	200	-	3600	20,400
1510b/	1100	850	625	430	320	5100	32,000
c/	850	650	475	400	280	5100	37,000

DABSO SERIES

147b/	500	380	260	200	140	3000	17,270
c/	360	-	200	-	-	3000	19,600
1410b/	680	520	370	280	210	3550	21,500
c/	500	380	260	200	-	3550	23,500
1510b/	1100	850	625	430	320	5050	28,000
c/	850	650	475	400	280	5050	31,400
DAZO-15-10-8	-	-	300	-	-	7000	53,000
DAZ-148-4	440	-	-	-	-	3200	23,600

GROUP B

Model	Synchronous RPM	KW	Volts	Net wt. (kg.)	Price, rubles
MAD-114-8	750	55	220/380	1070	5,500
MAD-126-8	750	130	220/380 and 500	1500	9,300
MAB-138-6	1000	330	500	2600	14,600
KAMD-111-2	3000	100	220/380; 380	970	5,700
KAMD-123-2	3000	220	380	1570	8,700
KAMOU-124-2	3000	275	380 and 500	1710	10,300
KAMD-122-2	3000	160	3000	1370	9,300
KAMD-133-2	3000	360	3000	2100	13,300
KAMD-134-2	3000	350	6000	2230	16,500

III. THREE-PHASE INDUCTION MOTORS, EXPLOSION-PROOF AND CUTTING

Model	KW at Synchronous RPM			Net wt. (kg)	Price, rubles
	1500	1000	750		
MA-142-2	8	5.5	4	158	740
MA-145-1	36	25	20	510	2,648
MA-146-2	85	61	46	820	4,200
MA-145-F-1	-	21	18	620	4,750
MA-146-F-2	-	52	42	930	7,500
ED-11	8	6	4	180	1,010* 1,900*
ED-32	32	25	20	555	3,000* 5,000*
ED-52	100	75	50	1070	5,900* 10,600*
K-11	4	3	-	160	900
K-32	15	15	11	530	2,700
MA-36-71	120	80	65	1338	7,100
MA-36-72P	120	90	70	1557	11,000
TAG-21	0.9	-	-	44	290
TAG-32	3.5	2.3	-	112	550

Model	Synch. RPM	KW	Net weight, kg	Price, rubles
MA-35-41/2	3000	18	380	2,710
MA-35-51/2	3000	35	635	4,500
MA-35-71/2	3000	125	1410	9,800
ED-11-2	3000	8	135	1,350* 2,120*
ED-32-2	3000	32	555	3,400* 6,250*
ED-52-2	3000	100	1070	6,800* 12,600*
MARP-114-8	750	55	1080	6,500
MARP-117-8	750	95	1380	8,100
MARP-128-8	750	160	1900	10,800

*1st column of prices for normal insulation; second column for silicon organic insulation.

IV. SYNCHRONOUS MOTORS AND GENERATORS

Model	RPM	KW	KVA	KW with cos = 0.8	Volts	Net wt. (kg) ^{a/}	Price, rubles ^{b/}
A. GENERATORS TO 100 KW							
aPW-10	1500	0.75	-	-	120	64	900
aPW-85	1500	6.0	-	-	120	178	1600
aPW-290	1500	50.0	-	-	230	600	5700
SG-35-6	1000	-	35	28	-	470	2290
MSA-73-4-A	1500	-	30	24	-	330	3600
SGS-6.25	1500	-	-	5.0	230	170	1690
SG-4c-1	1500	-	4	3.2	-	120	1600
SGT-25/6	1000	-	25	-	400	325 ^{b/}	2100
B. MOTORS OVER 100 KW							
SM-125	1000	113	-	-	-	1450	9300
SM-136	750	146	-	-	-	2100	11000
DS SERIES							
1406-6	1000	296	400	-	380	3250	20200
1406-8	1000	265	360	-	3000	3180	22700
	750	221	300	-	380	3200	20000
1505-10	750	204	280	-	3000	3200	23000
	600	249	340	-	380	4000	24000
1506-12	600	237	325	-	3000	3900	27500
1504-16	500	233	320	-	380	4090	24300
1507-6	375	111	160	-	380	3210	20000
1510-8	1000	421	570	-	6000	4450	34000
	750	501	670	-	6000	5000	38000
C. GENERATORS OVER 100 KW (GS SERIES)							
1405-6	1000	264	330	-	400	3030	19700
1506-8	750	376	470	-	400	3900	25000
	750	320	400	-	6300	3900	27000
1405-10	600	152	190	-	400	3000	19500
1405-12	500	128	160	-	400	3150	20400
1505-16	375	156	195	-	400/230	3360	21700
1505-20	300	120	150	-	400/230	3070	20000
1506-6	1000	264	330	-	400	3030	19700

a/ Weights of motors and generators over 100 kw include exciter. b/ Weight includes stabilizer. c/ Cost of exciters not included.

V. HYDROGENERATORS, VERTICAL, SYNCHRONOUS, THREE-PHASE

Model	RPM	KVA	KW	Volts	Net wt. (kg)	Price, rubles a
<u>Series VGS</u>						
1-325/39-20	300	3750	3000	6300	45,000	315,800
exciter	300	-	52	110	-	-
1-325/39-28	214	2300	1840	6300	45,500	310,200
exciter	214	-	45	160/20	-	-
1-325/49-32	187	3125	2500	6300	47,000	329,000
exciter	187	-	65	160	-	-
1-325/29-40	150	1500	1200	6300	41,000	295,100
exciter	150	-	45	115	-	-
1-325/39-40	150	2000	1600	6300	43,000	305,500
exciter	150	-	55	140	-	-
2-325/24-40	150	750	600	6300	20,700	143,500
exciter	750	-	21	80	-	-
2-325/20-46	130.5	375	300	6300	18,700	135,400
exciter	975	-	28.5	100	-	-
2-325/24-46	130.5	625	300	400	19,600	105,300
exciter	975	-	28.5	100	-	-
2-325/24-60	100	375	300	6300	19,600	150,400
exciter	800	-	21	80	-	-
3-260/20-24	250	850	680	6300	16,500	141,000
exciter	980	-	20	115	-	-
4-213/11-20	300	250	200	400/230	6,500	67,700
exciter	1000	-	10	75	-	-
4-213/15-20	300	375	300	400/230	7,400	77,000
exciter	1000	-	10	75	-	-
4-213/11-24	250	200	160	400/230	6,000	65,800
exciter	1000	-	10	75	-	-
4-213/15-24	250	250	200	400/230	7,000	75,200
exciter	1000	-	10	75	-	-
4-213/20-24	250	375	300	400/230	7,600	77,000
exciter	1000	-	10	75	-	-
4-213/24-28	214	450	360	400	9,423	90,000
exciter	1000	-	10	75	-	-

a/Price includes cost of exciter for models of the group VGS 1-325. Exciter cost not included in prices of other models.

ADDITIONAL DESCRIPTIVE NOTES FOR MOTORS AND GENERATORS
(MinFin Price Book, Volume II)

I. THREE-PHASE INDUCTION MOTORS TO 100 KW

GROUP A (pp. 472-473) - Shorted rotor, shielded. Installation Type SECH-2 (see explanation below). Series A, cast iron casing, series AL, aluminum. Voltage - 220/380 and 500. Also 127/220 for models A-31 and A-42, and AL-42.

GROUP B (p. 473) - Same.

GROUP C (pp. 473-474) - Same, except that models are enclosed and ventilated.

GROUP D (pp. 475-476) - Shorted rotor, shielded, multispeed, for 220/380 and 500 volts. Installation SECH2.

Series with suffix 8/4: 750 and 1500 synchronous RPM.

12/6: 500 and 1000 " "

8/6/4: 750, 1000 and 1500

12/8/6/4: 500, 750, 1000, 1500

GROUP E (pp. 476-478) - Shorted rotor, enclosed and ventilated for 220/380 and 500 volts. Installation SECH2.

Series ending 4/2: 1500 and 3000 synchronous RPM.

8/4: 750 and 1500

12/6: 500 and 1000

6/4/2: 1000, 1500 and 3000

8/6/4: 750, 1000 and 1500

12/8/6/4: 500, 750, 1000 and 1500

GROUP F (p. 480) - Shorted rotor, increasing starting moment for 220/380 and 500 volts. Installation, SECH2. Series AP, shielded; series AOP, enclosed and ventilated.

GROUP G (p. 481) - Phased rotor, shielded for 220/380 and 500 volts. Installation SECH2.

SURCHARGES (as percent of indicated prices) levied for installation type design changes (p. 482).

<u>Installation Type</u>	<u>Surcharge (% of base price^{a/})</u>
1. Horizontal, flange on bearing shield (F2)	20
2. Flange on bearing shield and case on feet (SECH2/F2)	20
3. Vertical, flange on lower shield (VZ)	30
4. With second free shaft end	5

^{a/}The base price is for standard SECH2 installation type; horizontal with frame on feet.

ADDITIONAL DESCRIPTIVE NOTES...(cont.)XI. THREE-PHASE INDUCTION MOTORS ABOVE 100 KWGROUP A (pp. 483-486) -

- Series AM6 - phased rotor, shielded.
 DAM6 - shorted rotor with double cage, shielded for 220/380, 380 and 500 volts.
 GAM6 - shorted rotor with deep groove, shielded. Same voltage.
 DAMT6 - shorted rotor with double cage, shielded. Designed for difficult operating conditions. 3000 volts.
 GAMT6 - Shorted rotor with deep groove, shielded. Designed for difficult operating conditions. 3000 volts.
 PAMSO - phased rotor, shielded with constantly leaning (?) (nalagafushchii) brushes.
 DAMSO - shorted rotor.
 DAZQ } - shorted rotor, shielded, 6000 volts.
 DAZ }

The installation type is SECH2 - on two-shield bearings with free shaft end for fitting pulley or coupling. Series GAM6, DAM6, GAMT6, DAMT6, DAMSO can be obtained with two free shaft ends.

GROUP B (p. 486) -

- Series MAD and MAB - phased rotor, constantly leaning (?) brushes, shielded.
 Series KAMO and KAMOU - shorted rotor, enclosed, ventilated, with two free shaft ends.

Installation type of all series, SECH2.

SURCHARGES (+) AND DISCOUNTS (-) RELATIVE TO BASE PRICES FOR
 DESIGN CHANGES (pp. 488-489)

<u>Design Changes</u>	<u>% of base price</u>
1. Enclosed, ventilated	+10
2. Second free shaft end (motors with phased rotors are not produced with two free ends)	+ 5
	- 9
3. Voltage changes: from 6000 to 3000	- 15
3000 to 500 and lower	+ 18
500 to 3000	+ 10
3000 to 6000	

INDUCTION MOTORS, EXPLOSION PROOF AND CUTTING (pp. 489-491)

Series MA-140 - shorted rotor, enclosed with outer blowing (ventilation). 380 volts.

Series MA-140P - same, except phased rotor.

Series KD - same as MA-140.

Series K - shorted rotor, enclosed without outer ventilation, 380 volts.

Model MA-36-71 - same as Series K.

Model MA-36-72P - same, except phased rotor.

Series TAG - shorted rotor, enclosed, 220/380 volts.

Series MA-35 - shorted rotor, enclosed, outer ventilation. Indicated kW output when temperature of surrounding air = 55°C.

Models KO-11-2, 32-2, 52-2 - shorted rotor, 2 pole, enclosed with outer ventilation for 380 volts.

Series MASP - phased rotor, "super-gate" for 220/380 and 500 volts.

All of the above - installation type SBCH2.

IV. SYNCHRONOUS MOTORS AND GENERATORS

A. Generators to 100 kw (p. 492)

Series APE - single-phase, with self-exciter for 50 ~~Hertz frequency~~, *cycles/sec*, drip-shielded.

Models EG-35-6 and MSA-72-4A - three-phase, with exciter (included in weight and price), horizontal, open, on two-shield rolling bearings; 230 and 400 volts; 50 ~~Hertz frequency~~. *cycles/sec*

Model EGB-6.25 - three-phase, shielded, self-exciting; 230 volts 50 ~~Hertz frequency~~. *cycles/sec*

Model EG-4c-1 - three-phase, shielded, with self-excitation from selenium rectifier, with transformer-voltage-stabilizer.

Model EGT-25/6 - three-phase, self-excitation from mechanical rectifier, automatic voltage regulation, 50 ~~Hertz frequency~~. *cycles/sec*

All models above, except EGT-25/6, are installation type SBCH2. The model EGT-25/6 is horizontal, on two rolling bearings.

B. Motors Over 100 kw (pp. 493 and 495)

Series SM - three-phase, shielded; 220, 380 and 500 volts, SBCHL type.

Series DS - three-phase, shielded.

C. Generators over 100 kw (p. 494)

Series GS - three-phase, shielded.